



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/553,074

10/12/2005

Daisuke Kanenari

21713-00059-US1

3776

30678

7590

09/02/2008

CONNOLLY BOVE LODGE & HUTZ LLP  
1875 EYE STREET, N.W.  
SUITE 1100  
WASHINGTON, DC 20006

EXAMINER

SCOTT, ANGELA C

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

09/02/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |  |  |
|------------------------------|--------------------------------------|--|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/553,074 | <b>Applicant(s)</b><br>KANENARI ET AL. |  |
|                              | <b>Examiner</b><br>Angela C. Scott   | <b>Art Unit</b><br>1796                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☒ Claim(s) 4-7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>03/08</u>   | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

Applicant's response of July 25, 2008 has been fully considered. Claims 1-7 have been amended and claim 8 has been cancelled. Claims 1-7 are pending in the application.

#### ***Claim Objections***

Claims 4-7 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 4 recites that the rubber latex is a natural rubber latex. This limitation is present in the independent claim. Therefore, claim 4 is not further limiting.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Line 3 of claim 3 recites a temperature range, "40 - 100°C 140 °C," but it is unclear what range is meant. For the purpose of further examination, the range has been given its broadest reasonable interpretation of 40 - 140°C.

#### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozer et al. (US 5,252,061) in view of Miyatake et al. (US 2003/0092819), Toratani et al. (JP 2002-069103) and Chandran et al. (US 5,842,289).

Ozer et al. teaches a method of using a pulse combustion dryer (Col. 1, lines 58-59) to dry different polymers such as acrylic-latexes (Col. 7, line 42). Moreover, Ozer et al. teaches that material introduced into the system will be atomized by hot gas pulses (Col. 1, lines 40-46). This

Art Unit: 1796

atomization causes rapid drying of the material and allows for it to be collected as a fine, dry power (Col. 1, lines 40-46). Additionally, it was well-known in the art at the time of the invention that rubber latexes and acrylic latexes are equivalents.

Ozer et al. does not teach that the solid concentration of the rubber latex is 60% by weight or less. However, Miyatake et al. does teach an acrylic rubber latex having a solid concentration of 10-50% by weight, more preferably 20-40% by weight (§50). Ozer et al. and Miyatake et al. are analogous art because they are both reasonably pertinent to the particular problem with which the inventor was concerned, namely, obtaining dried particles from a latex. At the time of the invention, a person of ordinary skill in the art would have found it obvious to have used a rubber latex having a solid concentration of 10-50% by weight, as taught by Miyatake et al., in the pulse combustion drying method, as taught by Ozer et al., and would have been motivated to do so because Miyatake et al. suggests that with this solid concentration, controlling the size of the particles becomes easier (§50).

Ozer et al. does not teach that the frequency of the pulse combustion is between 250 and 1200 Hz. However, Chandran et al. does teach a pulse combustion device used at a frequency in a range of from about 50 Hz to about 500 Hz (Col. 3, lines 13-16). Ozer et al. and Chandran et al. are analogous art because they are from the same field of endeavor, namely, pulse combustion devices. At the time of the invention, a person of ordinary skill in the art would have found it obvious to use a frequency range of about 50 Hz to about 500 Hz, as taught by Chandran et al., in the pulse combustion drying method, as taught by Ozer et al., and would have been motivated to do so because if the frequency is too high or too low, drying may not occur or may not be sufficiently obtained.

Ozer et al. does not teach that the drying chamber is at a temperature of 140° C or less. However, Toratani et al. does teach using a temperature of between 100° C and 140° C when drying is done in a single step (§23). Ozer et al. and Toratani et al. are analogous art because they are both reasonably pertinent to the particular problem with which the inventor was concerned, namely, drying latexes. At the time of the invention, a person of ordinary skill in the art would have found it obvious to use a single step drying temperature of between 100° C and 140° C, as taught by Toratani et al., in the pulse combustion drying method, as taught by Ozer et al., and would have been motivated to do so because rubber latexes are temperature sensitive.

Ozer et al. does not teach using a natural rubber latex and adding at least 0.001 parts by weight of a viscosity stabilizing agent such as a hydroxyl amine, a semicarbazide or a dimedone to

Art Unit: 1796

the natural rubber latex. However, Toratani et al. does teach using a natural rubber latex (§1) and adding 0.001 to 3 parts by weight based on the solid content in the natural rubber latex (§20) of a viscosity agent such a hydroxylamine, a semicarbazide, or a dimedone to the natural rubber latex (§4). At the time of the invention, a person of ordinary skill in the art would have found it obvious to use add 0.001 to 3 parts by weight of a viscosity agent such as the ones listed above to a natural rubber latex, as taught by Toratani et al., in the pulse combustion drying method, as taught by Ozer et al., and would have been motivated to do so because it can help to prevent storage hardening (§4), as suggested by Toratani et al., and it will help to keep the natural rubber latex more viscous.

Even if all of the claimed effects and physical properties are not positively stated by the references, such as an improved processing efficiency and heat efficiency, the references teach all of the claimed limitations as described above. Therefore, the claimed effects and physical properties would implicitly be achieved by performing the method under these conditions. If it is applicant's position that this would not be the case: (1) evidence would need to be presented to support applicant's position; and (2) it would be the examiner's position that the application contains inadequate disclosure that there is no teaching as to how to obtain the claimed properties and effects by performing only these limitations.

### ***Response to Arguments***

Applicant's arguments filed July 25, 2008 have been fully considered but they are not persuasive.

a.) In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

b.) Applicant argues that the temperature range as taught refers to the temperature of the drying while the temperature range in the claim refers to the temperature of the drying chamber. The claim recites a temperature range to be used in the method. There is no distinction made between a drying temperature and a drying chamber temperature. However, even a distinction were made in the claim, it would be immaterial. The drying chamber temperature could contribute to the drying of the latex and would therefore, in effect, be a drying temperature.

Art Unit: 1796

c.) Applicant argues that the cited art lacks the necessary direction or incentive for one of ordinary skill in the art and that there is no predictability of success of the combinations. Motivation for all combinations has been listed above and in the previous action. Additionally, due to the combinability and motivation, one of ordinary skill in the art would have had a reasonable expectation of success regarding the invention.

d.) Applicant argues that the properties of the inventive method are not taught in the references. Properties of the method are implicit with the method as stated above. No unexpected results have been shown to overcome the obviousness rejections of record.

### *Correspondence*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela C. Scott whose telephone number is (571) 270-3303. The examiner can normally be reached on Monday through Friday, 8:30am to 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571) 272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo, Ph.D./  
Supervisory Patent Examiner, Art Unit 1796  
29-Aug-08

/A. C. S./  
Examiner, Art Unit 1796